

REVIEWS.

ART. XV.—*Consumption: its Early and Remediable Stages.* By EDWARD SMITH, M. D., F. R. S., Assistant Physician to the Hospital of Consumption and Diseases of the Chest, Brompton, etc. etc. London: Walton & Maberly, 1862. 12mo. pp. 447.

DOES the clinical history of pulmonary tuberculosis include an appreciable period prior to the deposit of tubercle in the lungs? Few, if any, at the present time, regard this disease as primarily local. The deposit of tubercle is a result of an antecedent morbid condition of some kind, existing somewhere in the organism. This antecedent morbid condition is, in fact, the disease, of which the pulmonary tuberculosis is the local expression; we call it a cachexia or a dyscrasia, and our present pathological notions lead us to suppose that it involves some special blood-change. Not stopping to consider the soundness of this general doctrine, but assuming it to be most consistent with our existing knowledge, it follows that there is probably a period, prior to the deposit of tubercle, when the disease in reality exists. The disease exists when the cachexia has been produced; the cachexia precedes the tubercular deposit; hence, regarding these as consecutive events, it is reasonable to suppose that not only during the production of the cachexia, but after it has been produced, more or less time may elapse before the occurrence of the local expression of the disease. Now, the question is, does this period form an appreciable part of the clinical history of the disease; in other words, is this period accompanied by diagnostic symptoms? The author of the book, the title-page of which is placed at the head of this article, takes the ground that there is a period, prior to the deposit of tubercle, which is to be considered as a stage of the disease; he calls it the pre-tubercular stage, and he considers this stage as rendered appreciable by certain general and local symptomatic events.

The importance of the question which we have propounded is sufficiently apparent. If the tuberculous cachexia exist, for a greater or less period, prior to the tuberculous exudation, and we are able to determine the existence of the former before the occurrence of the latter, we may hope that the diagnosis during this period may be made of immense practical value. It is reasonable to suppose that at this period, more than at any other, the disease is amenable to proper management. We cannot doubt that the tuberculous cachexia may be removed, and it were gratuitous to discuss the advantage of removing it before the lungs are damaged by the deposit of tubercle. The only questions for discussion are, How are we to ascertain the existence of this pre-tubercular stage? and, What measures are to be pursued to effect the removal of the cachexia? Dr. Smith calls this a remediable stage, and the leading object of his work is the consideration of its diagnostic criteria, together with the management of the tuberculous disease. In view of the very great importance of the subject, we propose to review, in the first place, that portion of the work which treats of a pre-tubercular stage; and, in the second place, the therapeutical views which the author inculcates.

In seeking for the symptomatic phenomena which belong to a pre-tubercular stage, the attention is to be directed to symptoms referable to the pulmonary organs, as well as other parts of the body and the system at large, and to the physical signs. The author adopts this division of signs and symptoms, and considers the latter first. His method of investigation consists in inquiring of a large number of phthisical patients respecting the different functions of the body prior to the obvious manifestations of pulmonary disease. As a method of obtaining evidence of a pre-tubercular stage, this method is open to criticism. What proof have we that the various functional disturbances thus ascertained are either effects or concomitants of a tuberculous cachexia prior to the deposit of tubercle? They may have preceded the cachexia, and perhaps contributed to its production, being causes rather than consequences of it; or, on the other hand, they may not have preceded, but followed, the tuberculous deposit, the latter not having been at once manifested by obvious pulmonary symptoms. To determine with any degree of positiveness the symptoms of a pre-tubercular stage, we must have adequate proof of the non-existence of a deposit of tubercle after a certain epoch, and the date of the occurrence of a deposit must be fixed. These points can only be settled by careful physical explorations. Herein lies the difficulty of accepting the results of the author's inquiries of phthisical patients as evidence of a pre-tubercular stage. The symptoms which he ascertains may have preceded the cachexia, or they may have followed the production of the cachexia and preceded the deposit of tubercle; or they may have followed the deposit of tubercle. Their precise relations to tubercle are not determined, but, whatever these may be, as occurring antecedently to the obvious manifestations of pulmonary disease, they are interesting and important. We proceed to give succinctly the results of his inquiries.

The appetite was seldom natural, but was somewhat lessened in respect of food in general and of some foods in particular, and was commonly wayward and uncertain. It is worthy of being specially noted that fatty articles of food were less commonly liked than by persons who become affected with other diseases. There was commonly some derangement of the function of digestion, but frequently the derangement was small. The amount of food taken was commonly somewhat lessened. The assimilation of food was commonly defective, and the weight and bulk of the body were almost universally lessened.

The elimination of fluid by the skin was increased. There was a general tendency to defect of temperature of the body. The muscular power was commonly lessened. The circulation was commonly enfeebled and somewhat quickened. The menstruation was frequently disturbed, and there was much liability to leucorrhœa. Muscular pains about the chest were very common. There was commonly a state of hyperaesthesia of the throat. There was only a small or moderate amount of coughing, and a small amount of expectoration. In a majority of cases there was some degree of haemoptysis. Much of the coughing and expectoration, and occasionally the hemorrhage, the author refers to the pharynx.

The foregoing conclusions, which the author draws from his interrogatories, are expressed in his own language. We have omitted details, some of which must have cost the author considerable labour, and also considerations explanatory of the supposed relations of the disordered functions to the tuberculous cachexia. We repeat, these results are not without interest and importance, but as furnishing diagnostic symptoms of a pre-tubercular

stage, they can hardly be considered as having much significance or value. Would the physician be warranted in predicating the existence of a tuberculous cachexia on the functional disorders just quoted? We think the reader will concur in the opinion that this question cannot be answered in the affirmative. We pass to the physical signs referable to the pulmonary organs.

The first sign mentioned is lessened movement of the chest. The diminished expansion, he affirms, exists in every case. It is general; that is, it is not confined to one side or to the summit, but extends over all the movements of respiration. The amount of inspired air is lessened, as shown by the spirometer, which the author regards as less fallacious than the inspection or measurement of the chest. The next sign is involved in that just noticed; viz., feebleness of the respiratory murmur. The author believes that this change invariably precedes the deposit of tubercle. He thinks that a diagnostic character of the weakened murmur which precedes tubercle, as compared with the weakness caused by general debility, consists in the fact that, in the latter case, the normal intensity of the murmur is brought out by forced breathing, while it is otherwise in the former case.

The author does not state how often he has found these signs present at a time when, as he believed, tubercular deposit had not taken place, in persons who subsequently became tuberculous. He does not state that he has even observed a single instance of this kind. We think he was bound to present the data on which his statements are based. Clinical observation, of course, can alone furnish the proper data for conclusions; *a priori* reasoning is inadequate. Nor is it sufficient to say, which the author does not, that these signs were found in persons who, it is believed, would have had a deposit of tubercle if proper measures had not been taken to prevent this result. In order to consider these signs as denoting a condition of the lungs in which a deposit of tubercle has not yet taken place, but will take place unless prevented, they must be shown to have existed in cases of confirmed tuberculous disease at a time when there was satisfactory proof that the deposit had not taken place. This evidence of their diagnostic significance, the author may have obtained sufficiently for his own satisfaction, but he does not present it to the reader.

We must say that, were these signs proven to represent physical conditions which precede the deposit of tubercle, we much doubt their availability in diagnosis to any great extent. Diminished respiratory movements, lessened vital capacity, and enfeebled respiratory murmur, express deviations, not from any fixed normal standard applicable to all healthy persons, but to a standard of health proper to each individual. There are wide variations in these respects among different persons in health. All who have given much attention to examinations of healthy chests must be aware of this fact. To be able to judge, in any case, with respect to these signs, we must know the healthy standard in the person examined. This knowledge we seldom have, because persons in health do not present themselves for examination. This difficulty would not be nearly so great if the signs which have been mentioned were limited to a portion of the chest; we should then have the advantage of a comparison of the two sides. We confess we are unable to understand how the author can come to a conclusion respecting a general diminution of the breathing movements, of the amount of inspired air, and of the respiratory murmur, in individual cases, unless it have so happened that he is familiar with the patient's condition in these respects when in perfect health.

Dulness on percussion is another sign of the pretubercular stage to which the author attaches much importance. He thinks that, before the deposit of tubercle, there is an appreciable degree of dulness on the clavicles and over the chest in general. He attributes it to the absence of the full amount of air in the lung tissue. This dulness, although general, is apt to preponderate on one side. The remarks with reference to the diminished breathing movements and murmur are equally applicable here, in so far as dulness over the whole chest is concerned. If the practitioner be not familiar with the normal resonance of his patient, how is he to decide that it is abnormally diminished, in view of the wide differences, in this respect, in different persons in health? If relative dulness exist on one side, as compared with the other side, the first question is, may it not be owing to a normal disparity? A disparity exists to which the author does not refer. The right side, at the summit, is slightly dull as compared with the left side. This disparity is more or less marked in most healthy persons when percussion is practised with the care and delicate comparison of sounds of which the author speaks. The next question is, if the dulness be not due to the normal disparity, may it be fairly attributable to diminished expansion of lung prior to the deposit of tubercle, or does it not denote the existence of the deposit? We must confess that an abnormal dulness at the summit of the chest on one side, existing in a case in which subsequently unmistakable proof of tubercle was developed, would, for us, be evidence that tubercle already existed; in other words, the author adduces no facts which go to show that dulness precedes the deposit of tubercle.

We have cited the only signs which the author adduces as representing the condition of the pulmonary organs in the pretubercular stage. Assuming that, probably, such a stage in reality exists, and concurring fully with the author in the importance of its practical recognition, we are forced to conclude that he fails to indicate symptoms and signs sufficiently distinctive to be available in diagnosis, or facts adequate to establish its existence. The candor of criticism compels us to say this; but, in saying it, we would not disparage the value of the work as regards the interesting and useful considerations which it presents relating to the causation, pathology, and symptomatology of tubercle. While it does not claim to be a comprehensive treatise on the subject, we are sure that the medical reader will peruse it with gratification and profit.

The author considers not only the pretubercular stage of the disease, but its early and remediable stages. The experience of all practitioners will confirm the statement that, in the great majority of cases, tuberculous patients do not make application for medical aid until after the deposit of a greater or less amount of tubercle. It is an early and a remediable stage when the deposit is recent and the quantity small. Other things being equal, the disease is remediable in proportion to its short duration and the little damage to the lungs which the deposit has occasioned. We cannot but suspect that Dr. Smith has considered cases as in a pretubercular stage when a tubercular deposit already existed; but, waiving the discussion of this point, how vastly important is it to recognize the existence of a small deposit of tubercle! There is scarcely a problem in practical medicine of greater importance than the diagnosis of pulmonary tuberculosis shortly after the occurrence of the deposit. We should have been glad if the author had considered more fully than he has done, the diagnostic symptoms and signs of this stage of the disease. We believe that the diagnosis may be made in most cases at a very early period after the deposit has taken place.

We make this statement after a long and pretty extensive experience. But the diagnosis involves a degree of attention to physical signs which is bestowed by few practitioners. We hope not to be misapprehended in this remark. We are far from wishing to arrogate any special skill; we mean only that auscultation and percussion are not sufficiently studied by practitioners in general. A prevalent belief that practical skill is more difficult of acquirement than it really is, doubtless contributes not a little to a neglect which is much to be regretted.

We do not propose to consider the points involved in the early diagnosis of tubercle. To do this would require too much space, and, moreover, would, in this connection, be out of place. We will only say that the diagnosis requires a practical knowledge of the distinctive characters of physical signs, based on an analysis of the abnormal sounds, and a comparison with the normal sounds as regards differences relating to pitch, quality, intensity, and rhythm; it requires a practical acquaintance with the normal disparity between the two sides of the chest in the sounds obtained by auscultation and percussion, and it requires a fair amount of the judgment and tact which are only to be acquired by practice. The importance of the object should secure for the means of diagnosis more attention than they generally receive.

One-half of Dr. Smith's work is devoted to the treatment of tuberculosis. We find in this portion of the work no occasion to join issue with the author, but, on the contrary, much which we would commend to the reader's attention. Dr. Smith attaches far greater importance to hygienic measures than to drugs, in the treatment of the disease. This is a point to be impressed on the minds not only of practitioners, but of tuberculous patients. The latter must understand fully that the arrest of the disease is not to be effected by any special medication. Understanding this, they will place their dependence on those measures of diet and regimen which will not be likely to be properly carried out save with the conviction that the reliance is chiefly on these measures. For the successful management of tuberculosis, the faithful co-operation of the patient is essential, and failure of success not infrequently may be attributed to want of sufficient energy and perseverance on the part of the patient.

Dr. Smith regards the inunction of oils or fats as productive of a certain amount of benefit by restraining excessive elimination of fluids from the skin, and protecting the surface against atmospherical impressions. He considers its beneficial agency as altogether mechanical, attributing nothing to absorption. He prefers the ordinary spermaceti ointment for the inunction. It should be continued for several successive days, and then intermittent for a short time. Sponging the surface with cold water, followed by brisk friction, he recommends in the intervals when inunction is omitted, and habitually when inunction is not resorted to. Of the latter measure we can speak favourably from experience. There are few cases in which, with proper precautions, it may not be resorted to with advantage.

As regards clothing, his views appear to us highly judicious. The surface is to be protected against changes of temperature by garments worn next the skin, composed of materials which are good non-conductors of heat, and, with this protection, the body is to be kept cool instead of being over-heated. A superabundance of clothing is not less hurtful than a deficiency; perhaps even more so, on account of the loss of fluids by perspiration, and the increased susceptibility of the skin to atmospherical influences. An excess of clothing interferes with active exercise, owing to the encum-

brance, and the inconvenience from heat and sweating. Dr. Smith enjoins that flannel should be worn next the skin. Raw silk is perhaps an equally good non-conductor of heat, and may be substituted when preferred. But, in a cold climate, we think the chamois-leather jacket worn over light woollen or silk, is to be strongly recommended. It is sufficiently porous, and affords such substantial protection that cumbersome outer garments may be dispensed with. With the body properly protected, out-door life is to be advised, and exposure in almost all kinds of weather is not only admissible, but advisable. There is no hygienic measure in the treatment of tuberculosis of greater importance than this. In how many cases has a favourable progress in this disease been retarded, or prevented, by needless apprehensions of exposure and of over-exertion! We may here remark that tuberculous patients, as a rule, are not more prone to attacks of bronchitis or colds, than healthy persons; and, when such attacks occur, they do not appear to exert any marked influence on the tuberculous disease.

The author is fully impressed with the importance of abundant alimentation, and of supplying a proper variety of alimentary principles. Fatty articles should, if possible, form a fair proportion of the diet. The author remarks that some persons who have a disinclination for most kinds of fat, are able to take certain kinds without repugnance. He reckons alcoholics among the articles of food, and considers them as important, but not exerting any special anti-tuberculous influence. Many practitioners on this side of the Atlantic consider alcoholics as useful, remedially, in tuberculosis, and in this view we have participated. We are satisfied, however, that all are not benefited alike by them, and that, in some cases, they are not useful. They should never be given to the extent of affecting the brain, accelerating the circulation, producing perspiration, or inducing an indisposition to muscular exertion. The patient should be sensible of an agreeable and beneficial effect of their use; if not, they will not be likely to be useful. We would add to the articles which are especially useful, sugar. This should enter into the diet as largely as the taste of the patient will allow, provided it do not occasion disturbance of digestion. We are tempted to quote the author's directions as regards food in the early stage of phthisis. It will be seen how vigorously he enforces alimentation. Perhaps he pushes this part of the treatment to an extreme; but it is better to err in that direction than on the side of deficiency. Upon alimentation and out-door life, improvement and recovery depend vastly more than upon any of the other measures of treatment. We quote from the work as follows:—

"The patient should take from two to three pints of milk daily, prepared (and we would add *thickened*) with chocolate, arrowroot, flour, gluten, semola, oatmeal, or bread, or made with eggs, etc. into puddings. In cases where new milk does not agree, skimmed milk may be in part supplied, and then, if fats be tolerated, half an ounce of suet, cut finely, should be well boiled in each pint of milk and taken quite warm. The milk should be eaten in somewhat small quantities, say half a pint at a time; one quantity is to be taken immediately on the patient awaking in the morning, others at breakfast and supper, the milk pudding for dinner, and chocolate or coffee may be added to the milk which is taken at breakfast and tea. Food should further be taken at intervals of from two to three hours, and the dinner should be supplied soon after mid-day. Half a pint of good soup, with bread, may be taken between breakfast and dinner, and, if fats are not disliked, it would be better to prepare the soup from ox heads or shins, so as to supply both oil and jelly in addition to the juices of the meat, and the whole should be well thickened with groats or corn flour. Eggs, bacon or meat should be taken at breakfast, and abundance of fresh meat at dinner, with soup, pudding, and a moderate quantity of fresh vegetables, French beans,

and bread. The meat should be of the richest quality, and have at least one-third of its weight of fat. If the patient like salad oil, it may be eaten as freely as possible. A small quantity of cheese should be added to the dinner. An egg should be taken at the tea meal, and also at supper when milk is not taken. There should also be a cup of milk and bread and butter placed at the bedside of the patient, and eaten, if possible, during the night. Beer or wine may be taken at dinner and once or twice at other periods of the day, if it be found to agree with the system, and the dose be so moderated that it may not in the least affect the head, or cause heaviness in, and indisposition to move the limbs. Usually wine should be taken with hot water; but when the progress of the case is satisfactory, alcohols are not necessary. All food should be taken hot, and prepared so as to please the taste of the patient." (p. 329.)

The reader will perhaps be led to say that the author gives the patient but little time to do aught else than to eat. Exclusive of out-door exercise, he cannot do anything more conducive to his welfare. There is, of course, a limit to dietetic measures; the digestive powers must not be over-tasked, but their fullest capabilities are to be made available, and this can be done by systematic, persevering efforts to a far greater extent than is generally supposed.

Dr. Smith recommends the practice of promoting expansion of the lungs by voluntary efforts of deep inspiration. Whatever advantage accrues from this, may be obtained, as it seems to us, by muscular exercise in the open air.

The remedies which he deems useful with reference to the arrest of tuberculous disease, are chiefly those which promote appetite and digestion. For these objects he advises the tinct. ferri sesquichloridi, or the citrate of iron and quinine, with some of the bitter infusions. Cod-liver oil is advisable when tolerated. For the cough he considers the best remedy to be 1-16th or 1-12th of a grain of morphia in mucilage or syrup.

The last seventy pages of the work are devoted to the climatic advantages of certain situations, viz., Scarborough, the Isle of Man, Scotland, Switzerland, various parts of England, the Nile, Pau, Madeira, and Rome. He presents details respecting humidity, mean temperature, etc., of several of these situations.

In taking leave of the work, we would express the hope that the author will furnish occasions for a renewal of our intercourse as a reader, if not as a reviewer.

A. F.

ART. XVI.—*On Asthma; its Pathology and Treatment.* By HENRY HYDE SALTER, M.D., F.R.S. London, 1860. 8vo. pp. 372.

THE only sure foundation for the rational treatment of a disease, is an accurate knowledge of the pathological elements which it involves, and its separation as a morbid entity from all analogous affections, as well as from the phenomena which accidentally become attached to it. When this object has been attained, and then only, does it become possible to discover its pathogenesis, or accurately to determine the value and the mode of operation of the several remedies which are employed for its cure. So in chemistry the isolation of a substance from its associated substances forms the preliminary step to an investigation of its nature and habitudes. Without such an isolation of a disease, all discussions respecting its nature lead to